

# Application of non Parametric Life Tests on Reliability

M. BOURAINE\*, S. MEDJDOUB and D. AISSANI\*\*

LAMOS laboratory

University of Bejaia, 06000 Bejaia, Algeria

\* mbouraine@yahoo.fr

\*\* lamos\_ bejaia@hotmail.com

## Abstract

This work consists to study the reliability of the vehicles of the Logitrans unit of Béjaia. Pareto analysis permitted to select the most fragile elements (very elevated maintenance cost and elevated number of breakdowns). Two classes of vehicles have been kept. These last have been divided in subsystems. The life distribution of the subsystems of every class were modelised, from TBF (Time between Failure), raised of the data feedback experience. Two models have been used: a parametric model (weibull with two parameters) and a non parametric model ( $A_2$  test of Klefsjö). For every class of vehicle, three types of subsystems have been gotten: IFR, exponential and DFR subsystems.

**Keywords:** Reliability, maintenance, non parametric life distributions and non parametric life tests.

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